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EPAct Test Programs in ASD
11th Bi-Weekly Report
June 26, 2008

1. Light Duty Gas Exhaust Fuels

Contractor: SwRI, EP-C-07-028, WA 0-1
WAM: Connie Hart
Alt. WAM: Rafal Sobotowski
Other team members: Carl Scarbro, Mike Christianson, Tony Fernandez, Carl Fulper, Aron Butler
Budget: \$4.3M, plus \$3M in collaboration with NREL

Objective: Phases 1 and 2 are in support RFS 2 NPRM and Phase 3 is to establish the effects of RVP, T50, T90, aromatic and EtOH content on exhaust emissions from Tier 2 vehicles

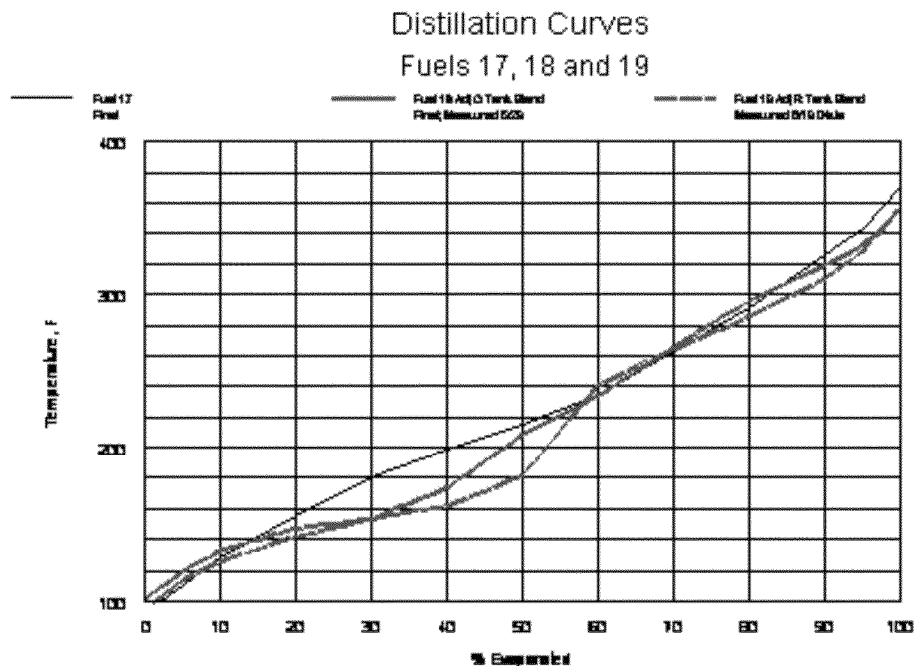
Time Line

- Testing began by second week of April
- Phase 1 and half of Phase 2 finished by the end of June: Projecting fuels 17 and 18 of Phase 1 to be complete by end of June. Fuel 19 by week of July 7.
- Phase 3 will be finished May 2009: Phase 3 to be complete by October 2009 between testing/fuel delays to date and additional CRC fuels added into our random matrix.

Program Status:

- Fuel status for Phase 1 (distillation curves shown below):
 - Fuel 17 has been delivered.
 - Fuel 18 has been delivered.
 - Fuel 19 has been adjusted. Delivery to SwRI by 6/xx for testing to be complete by week of 7/7.
- Fuel 17 testing is complete.
- Fuel 18 testing is complete.
- Refinery Tool software been loaded onto Rafal's pc. He has begun to get familiar with the software. David Hawkins (summer student) will be assisting him.
- Testing Issues:
 - Flowmeter issues:
 - Distortions occurring when EFM is in the CVS system even though it calibrates well on flow stand properly. Our staff working closely with SwRI. Resolution is beyond scope of this WA.
 - SwRI has received the WA to resolve the issues.
 - Temp and humidity large fluctuations. SwRI **still** working on the problem.
 - Progress has been made tightening the tolerance.
 - A plan is now in place for movement of the weather station probes to be within proximity of vehicle to more accurately apply any correction factors.

- OBD issues are close to resolution. Anthony Neams is working closely with SwRI to insure proper codes are being recorded. They are looking at some new tools that he recommended.
- Data:
 - Data is flowing in somewhat quicker. Still working with SwRI to speed the process.
 - Resolved some formatting issues, should be receiving new templates with all data to date by end of week.
 - Data team has been working to streamline process as data comes in on a daily basis.
 - Working on alignment issues.



2. Oil Study

Contractor: NVFEL

Project lead: Mike Christianson, Rafal Sobotowski

Budget:

Objectives: Results to impact Phase 3 of EPAAct study at SwRI (July)

Objective 1: Define duration of engine oil conditioning needed to stabilize the effect of oil volatility on PM emissions

Objective 2: Define the impact of lubricant interaction with fuel ethanol on PM emissions

Time Line

- Estimated duration of pilot: 15 weeks (May 11)

Program Status:

- Starting a 3rd phase: Engine Oil is now aged to full useful life (5000 miles) and vehicles are in the LOD testing queue for this week and next.
- This additional testing will allow us to align our test data with CRC's oil study and close out our program.
- Awaiting Lubrizol oil analysis results in next few weeks.

3. PM Speciation

Contractor: NVFEL

Project lead: Mike Christianson, Marion Hoyer

Other team members: Carl Scarbro, Rafal Sobotowski, Joe McDonald

Budget: \$345K (\$55K on inventory and data issues from other EPA Act programs)

Objective: To determine fuel effects on PM mass, size and composition, and obtain speciated semi-volatile VOC, metals and ions, and gaseous VOC (MSATs), alcohols and carbonyls.

Time Line: Late 2008

Program Status:

- Working with LOD and ORD/NRML to define round robin goals and requirements.
 - July trip to ORD for dyno facility audit is likely next step.
- AVL will test current toxic sampler before HD dioxin testing begins to determine feasibility of our proposed modifications. Upgraded instrument delivery still targeted for the fall of this year.

4. Nonroad Exhaust Program

Contractor: Carnot Intertek

WAM: Carl Scarbro

Alt. WAM: Cheryl Caffrey

Budget: \$830K

Project Overview:

Objective: Testing 6 paired engines including 2 Class 1, 2 Class 2, 2 Class 4, (one Class 2 engine has catalyst) on three fuels; national average non-oxy gasoline (Fuel A), an octane matched E10 (Fuel B), and a certification fuel (E0).

Timeline

- The original program was to be completed last year

- Should begin by April 1st and finish in October of this year: delays in schedule due to fuel delivery status.

Program Status

- Fuel 18 was received by Intertek Carnot on the evening of June 6.
- Test site preparations week of June 9.
- Engine ring seating, break-in and aging on two engines (Class II Kawasaki and Class I Honda) started June 17. Baseline emission testing on fuels #17, #18 and an indolene spec fuel is also planned by June 20. Engines will be put on durability for aging to ½ life.

5. Evap Testing

Contractor: SwRI, EP-C-07-028, WA 0-4
WAM: Connie Hart
Alt. WAM: Dave Brzezinski
Other team members: Carl Scarbro, Tony Fernandez
Budget: \$600K

Objective: Additional, newer technology, high sales volume vehicles to the CRC E-77-2 permeation test program.

Time Line: Testing from June 2008 thru June 2009

Program Status:

- SwRI received the package from Contracts on 6/23.
- SwRI would like to subcontract this project to Harold Haskew who will have the testing done in Phoenix at ATL.

6. Determine Percent of High Evaporative Vehicles in Fleet

Contractor: ERG, EP-C-06-080, WA 1-2
WAM: Connie Hart
Alt. WAM: Dave Brzezinski
Other team members: Carl Scarbro, Carl Fulper, Tony Fernandez, Jim Warila
Budget: \$1M

Objective: Find the percentage of high emitting evaporative emission vehicles in the average fleet of on-road motor vehicle passenger cars and light trucks.

Time Line

- ICR clock started with Federal Register notice 2/14/08
- SOW package went to Cincinnati 2/22/08
- Approval of Work Plan by March 24: 1st task approved March 31, balance waiting for CRADA signatures.
- Contractor to supply supporting documents for ICR submission March 31: delivered May 8th.

- Another 30 day comment period for ICR, roughly month of May. Clock started on 30 day period May 27.
- Goal is to have ICR in place by mid-June for recruitment and pilot field work to begin. Paul Machiele has been calling OMB to give us priority.
- Finalize test procedure for larger program by August 22 so recruitment can begin for field work in Sept and October
- Compile data and draft report by early December of 2008

Program Status:

- ERG is prepared to be in field as early as July 14 if ICR is approved.
- ICR 30 comment period will be up next week. We are hoping the pressure on OMB will result in quick approval.
- ERG was here this week for another project, but we were able to discuss plans for the pilot deployment in Colorado. They are prepared to be in the field within two weeks of ICR approval.